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April 14, 2014

United States Environmental Protection Agency
Region 5
LU-9J
77 West Jackson Boulevard
Chicago, Illinois 60604-3507

Attention: Mr. Don Heller

Reference: Quarterly Technical Progress Report
Administrative Order on Consent
EMD Chemicals Inc.
Norwood, Ohio Facility
Project No. 203083.0001

Dear Mr. Heller:

TRC Environmental Corporation (TRC) is pleased to submit, on behalf of EMD Millipore Corporation, formerly known as EMD Chemical Inc. (EMD), the attached Quarterly Technical Progress Report. The Quarterly Technical Progress Report is a requirement of the Voluntary Corrective Action Agreement (VCAA) with the United States Environmental Protection Agency (U.S. EPA), Region 5, to address releases of hazardous waste or hazardous constituents at its facility located at 2909 Highland Avenue, Cincinnati, Ohio.

Should you have any questions regarding the enclosed document, please contact either of us at (513) 489-2255 or via e-mail at JWasserbauer@trcsolutions.com or CKugler@trcsolutions.com.

Sincerely,

TRC Environmental Corporation

James A. Wasserbauer
Senior Project Manager, P.G.

Curtis S. Kugler
Project Manager

cc: Scott Chase – EMD Millipore (electronic only)
Sherry L. Estes, Esq. – U.S. EPA, Region 5
Mark A. Norman, Esq. – Vorys, Sater, Seymour & Pease LLP (electronic only)

14-1011LTR/sap

QUARTERLY TECHNICAL PROGRESS REPORT – FIRST QUARTER 2014
(01/01/2014 – 03/31/2014)
EMD Millipore Corporation, Norwood, Ohio

A. IDENTIFICATION OF FACILITY AND ACTIVITY

The EMD Millipore Corporation (EMD) facility is located at 2909 Highland Avenue, Norwood, Ohio. EMD is conducting corrective measures to address releases of hazardous waste or hazardous constituents at the facility. The U.S. EPA submitted the Notification of Final Decision to EMD on November 5, 2008, and issued the fully executed copy of the 3008(h) Administrative Order on Consent (AOC) and Certificate of Incumbency on March 31, 2010. Quarterly Technical Progress Reports are required to be submitted under Condition VII.B of the VCAA.

Copies of the Quarterly Progress Reports have also been filed at the public repository established by EMD at the Cincinnati Public Library (Norwood Branch) located at 4325 Montgomery Road, Cincinnati, Ohio.

B. STATUS AND PROGRESS DURING THE REPORTING PERIOD

This report includes a summary of work performed and data collected since completion of the ground water treatment system, secant pile wall and ground water collection trench, and the concrete cover system of the final corrective measures in 2013.

1. Performance Monitoring

a. Ground water levels were recorded on January 14, 2014 from all the monitoring wells on and off the property for the demonstration that hydraulic control is being achieved by the corrective measures. This is the first water level recording event since completion of the construction activities. Prior to the corrective measures being complete, ground water flow maps from the Upper Sand Unit and Lower Clay Unit were prepared to show the on and off property hydraulic characteristics associated with the performance of the interim measure (French Drain) and offsite migration characteristics from the West Ravine. Figures 1 and 2 show the ground water contours for the Upper Sand and Lower Clay Units. As the facility transitions to performance monitoring of the corrective measures the ground water measurements and flow directions from these Units and the other water level measurements collected during January event will be evaluated and compared to historical and the future quarterly events planned through 2014. The data collected from these events will be utilized to establish a baseline for post remedy ground water flow direction and hydraulic containment.

b. A Ground Water Monitoring Plan (GWMP) has been prepared for the facility and submitted to the US EPA for its review and concurrence. The GWMP specifies the monitoring frequency, monitoring locations, list of contaminants to be monitored, ground water monitoring procedure, target concentrations, termination criteria, well closure, and reporting. Performance monitoring will be conducted during the second quarter of 2014 in accordance with the GWMP.

2. Operation and Maintenance

a. Effluent monitoring from the ground water collection trench was performed during this period of transition. The sampling results from this quarter will be provided in future submittals as the reporting format is finalized.

b. Visual inspection of the remedy components consisting of the entire concrete surface cover in the area of the remediation system and the retaining wall were implemented. The visual inspection were conducted to determine if subsidence, erosion or significant fractures have occurred during this reporting period. No subsidence, erosion or significant fractures were observed during these visual observations. A quarterly inspection of the cover system including an inspection of all joints was conducted on March 19, 2014. The results of the March 2014 inspection will be included in a future submittal.

3. Tank Farm *In-Situ* Chemical Oxidation Injections

No *In-Situ* Chemical Oxidation (ISCO) injections or injection monitoring were completed during this reporting period.

C. PROJECT SCHEDULE

During this reporting period, the project schedule, personnel updates, and any summaries of correspondence to/from U.S. EPA are summarized below.

- There have been no changes to the project schedule during this reporting period.
- This is first quarterly progress report prepared by TRC for the facility.
- There have been no formal correspondence submitted to/from the U.S. EPA during this reporting period.

D. 2014 SECOND QUARTER PROJECTED ACTIVITIES

The following activities are planned for next reporting period.

- In accordance with the AOC, a Ground Water Monitoring Plan has been prepared for the facility and will be submitted to the U.S. EPA for review and concurrence during the second quarter of 2014.
- In accordance with the AOC, an Operation and Maintenance Plan for the Trench Collection System is being prepared for the facility and will be submitted to the U.S. EPA for review and approval during the second quarter of 2014.
- Performance monitoring will be conducted in April/May by the collection of ground water samples as specified in the Ground Water Monitoring Plan for the facility.
- Ground water elevations will be recorded in April 2014 at all monitoring wells. This will be the second event since completion of the construction activities and will be utilized for the evaluation and development of the baseline hydraulic characteristics since the implementation of the corrective measures.
- The second ISCO injection and injection monitoring is planned to be initiated during the second quarter of 2014.
- Ongoing monitoring of the effluent from the ground water collection trench will be performed on a monthly basis.
- Ongoing inspections of the remedy components and site cover will be monitoring for cracks and erosion along with the inspection of the fencing around the site for integrity.

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WRPZ5
WRPZ15

LEGEND

- Well Screened in Upper Portion of Unit
- Well Screened in Middle Portion of Unit
- Well Screened in Lower Portion of Unit
- Sewer Backfill Monitoring Well
- Fill (B0) Monitoring Well
- Upper Till Sand Seams (C1) Monitoring Well
- Upper Sand Unit (D1) Monitoring Well
- Lacustrine Unit (D2) Monitoring Well
- Lower Clay Unit (D3) Monitoring Well
- Lacustrine-2 (D5) Monitoring Well
- Storm Sewer Seep Sampling Location/ Surface Water Sampling Location
- 1" Temporary Monitoring Well (Fill-B0)
- 1" Temporary Monitoring Well (Lacustrine Unit-D2)
- Sample Location Included in Groundwater Flow
- Groundwater Elevation Contour (2' Interval)
- Approximate Storm Sewer Location
- Approximate Location of Groundwater Collection Trench
- Approximate Location of Retaining Wall
- EMD Property Boundary

Reference: Hamilton County Auditors, Orthophotograph (2006)

50 25 0 50
Feet

TITLE
UPPER SAND UNIT GROUNDWATER FLOW JANUARY 2014

CLIENT: EMD MILLIPORE CORPORATION
DATE: Friday, April 04, 2014
FIGURE: 1
PROJECT NUMBER: 213083.0000.0000
DRAWN BY: JAW

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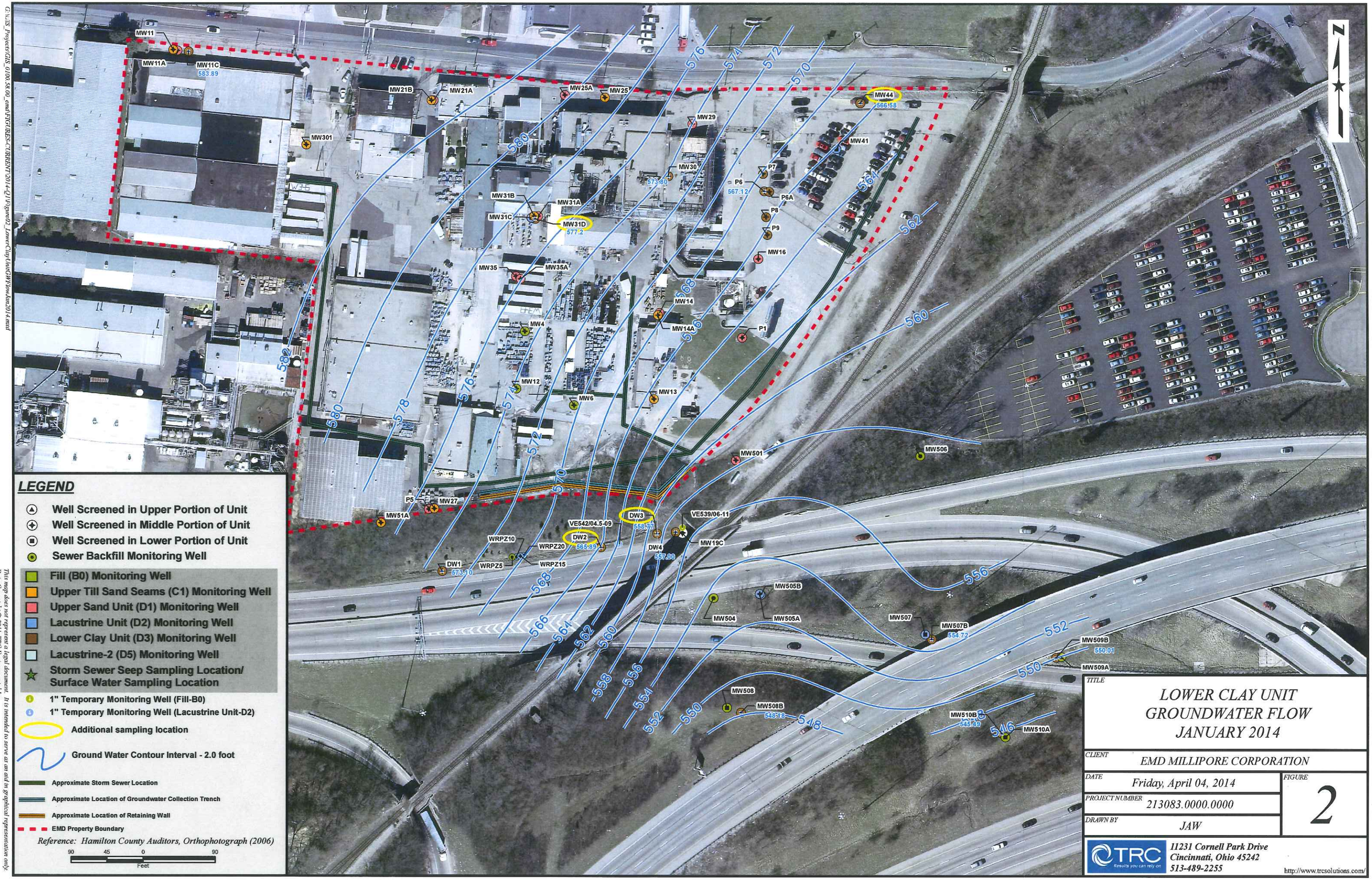
G:\GIS_Projects\GIS_0100.58.00_end\FIGURES-CURRENT\2014-Q1\Figure02_LowerClayUnitGWFlowJan2014.mxd



LEGEND

- Well Screened in Upper Portion of Unit
- Well Screened in Middle Portion of Unit
- Well Screened in Lower Portion of Unit
- Sewer Backfill Monitoring Well
- Fill (B0) Monitoring Well
- Upper Till Sand Seams (C1) Monitoring Well
- Upper Sand Unit (D1) Monitoring Well
- Lacustrine Unit (D2) Monitoring Well
- Lower Clay Unit (D3) Monitoring Well
- Lacustrine-2 (D5) Monitoring Well
- Storm Sewer Seep Sampling Location/ Surface Water Sampling Location
- 1" Temporary Monitoring Well (Fill-B0)
- 1" Temporary Monitoring Well (Lacustrine Unit-D2)
- Additional sampling location
- Ground Water Contour Interval - 2.0 foot
- Approximate Storm Sewer Location
- Approximate Location of Groundwater Collection Trench
- Approximate Location of Retaining Wall
- EMD Property Boundary

Reference: Hamilton County Auditors, Orthophotograph (2006)

90 45 0 90
Feet

TITLE
LOWER CLAY UNIT GROUNDWATER FLOW JANUARY 2014

CLIENT: EMD MILLIPORE CORPORATION

DATE: Friday, April 04, 2014

FIGURE: 2

PROJECT NUMBER: 213083.0000.0000

DRAWN BY: JAW

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